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THE SCIENCE NEWS-LETTER

A Weekly Summary of Current Science

EDITED BY WATSON DAVIS

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EDWIN E. SLOSSON, Director
WATSON DAVIS, Managing Editor

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PURE VITAMIN ISOLATED FOR FIRST TIME

One of the elusive vitamins has at last been isolated. Drs. Walter H. Eddy, R. R. Williams and Ralph W. Kerr, working in the laboratories of Teachers' College, Columbia University, have obtained from brewers yeast a crystalline substance, containing the elements carbon, hydrogen, nitrogen, and probably oxygen, that has all the properties of vitamin D or "bios", as it is sometimes called.

This vitamin has the property of stimulating the growth of yeast. That yeast contained such a stimulant was announced in 1900 but it has never before been obtained in a chemically pure state.

Although it does not influence animal growth in the way in which vitamins A, B and C do, Dr. Eddy declared:

"A special interest attaches to this isolation from our viewpoint in that the method successful with bios may be extended to study of other vitamins. It will permit physiological studies of how a growth stimulus acts on living matter without the handicap of contaminating factors. We hasten to add with a view to discouragement of the patent medicine field, that there is at present no indication that better growth effects can be obtained with the purified material than with food extracts or foodstuffs holding it in combination."

The properties of the newly isolated substance are given as follows:

"It is crystalline and the crystals melt sharply at 223 degrees Centigrade. The crystals act on polarized light and their index of refraction lies between 1.52 and 1.53. When this crystalline material is added to a yeast culture medium amounts as small as 0.005 milligrams per cubic centimeter of medium produce an increase of yeast growth of about twenty times the control in twenty-four hour incubation. It is too early as yet to construct the formula but we are sure that the carbon per cent is 43, the hydrogen 8, and that the nitrogen content will run about 25 per cent. The yield by our method is about 70 milligrams from six pounds of moist brewers yeast. The process of separation has been repeated several times and with identical results. It is also found that there is a direct correlation between the activity of the yeast extract residue and the amount of crystalline product removed. These results seem to indicate both that the product we have isolated is a chemical

entity and that the activity of yeast growth extracts are due to this entity."

Dr. Eddy is professor of physiological chemistry in Teachers College, Columbia University. Dr. R. R. Williams is in charge of the chemical laboratories of the Western Electric Company and was in the Philippines when vitamin B was first discovered. Dr. Ralph W. Kerr is a recent graduate of Columbia.

Bios was first described by a French scientist, Wildier, in 1900. To similar substances shown to be present in various plant extracts Bottomley later gave the name of auximones. Neither of these authors actually isolated the substance, but they did show that the extracts contained something which stimulated the growth of yeast cells and other organisms.

Interest in the subject was revived in 1916 by Roger Williams who suggested that bios was actually vitamin B. It was finally discovered that while most substances rich in vitamin B do stimulate yeast growth, the stimulationg may be due not to the presence of vitamin B, but to some other factor accidentally associated with it. In 1922 Casimir Funk was able to show that when an extract rich in B was shaken with Fuller's earth the earth would remove all of the power of the extract to cure beri-beri, a property exclusively related to B, but did not remove the yeast growth stimulation factor. Funk interpreted his results to indicate that such extracts contained two vitamins, one the antineuritic factor for which he proposed to retain the name B, and the yeast growth factor which he called vitamin D.

This suggestion of Funk's originated a controversy in which various investigators have taken part. They attempted to show that the yeast growth factor, while highly stimulatory to yeast growth, is not essential to its growth. They would reserve the term vitamin to substances producing growth, but limit it to such as were absolutely essential to growth. Others believe the term vitamin should be restricted to such factors as are essential to mammalian nutrition. Thus the yeast growth factor has been described under the two names, bios and vitamin D.

READING REFERENCE - McCollum, E. V. The Newer Knowledge of Nutrition. New York, Macmillan Company, 1922.

RESEARCH FOR BETTER LIGHTING INAUGURATED

Thomas A. Edison, "the father of the electric lighting industry", has accepted the honorary chairmanship of the National Research Council Committee on Industrial Lighting, which is now being organized to conduct an extensive investigation of the relation of illumination to industrial production and the reduction of industrial fatigue.

This scientific investigation plans to increase production and decrease rejections of manufactured products, to better working conditions through the decrease of industrial fatigue and the increase of safety measuresand compensation, and to conduct an educational campaign urging better lighting. In administrative charge is a general directive board with Prof. Dugald C. Jackson of

the Massachusetts Institute of Technology as chairman.

Present plans contemplate a two year program and an expenditure of approximately $50,000. Test installations will be made in large manufacturing establishments in the principal industries, The field work will be supplemented by laboratory research under controlled conditions in the illumination research laboratories at the Massachusetts Institute of Technology.

TWO TYPES OF TEMPERAMENT

By Dr. Edwin E. Slosson.

Are you an extravert or an introvert?

That is the way the question is put today. The phraseology is new, for it was recently introduced by Jung. But the question is old, about two thousand years old, anyhow, for Galen made a similar effort to classify mankind by temperament. He distinguished between the "sanguine", who are quick, warm, impressionable and changeable, and the "phlegmatic", who are slow, quiet and persistent. When these two characteristic types are strongly marked they are called respectively "choleric" and "melancholic".

Another old classifcation of a similar sort is between "objective" and "subjective" or between "energetic" and "sentimental".

Professor William James devotes the first chapter of his book on "Pragmatism" to showing how our beliefs and reactions are unconsciously controlled by our temperamental bias and from this point of view he divides people into the "tough-minded" and the "tender-minded". The tough-minded, he says, are "empiricist (going by facts), sensationalistic, materialistic, pessimistic, irreligious, fatalistic, pluralistic and skeptical", while on the other hand the tender-minded are "rationalistic (going by principles), intellectualistic, idealistic, optimistic, religious, free-willist, monistic and dogmatical". And he says you can tell them apart because "they have a low opinion of each other. The tough think of the tender as sentimentalists and soft-heads. The tender feel the tough to be unrefined, callous and brutal." The tough-minded of James corresponds roughly with the extravert of Jung, and the tender-minded with the introverts.

Professor Wilhelm Ostwald of Leipzig in his study of great scientists divides them into the "romanticists" and the "classicists". The romanticist man of science is a good teacher; genial, versatile, expansive and popular; fond of conversation and quick to publish. He jumps at conclusions, sometimes making amazing discoveries by a sort of intuition and sometimes making sad mistakes from his impatience of detail. The romanticist gets paid in current coin; in the devotion of his disciples and in honors from his colleagues, sometimes in applause and wealth from the public.

The classicist on the contrary has to put up with deferred payment. His services to science often receive no adequate recognition till his death, and not always then. He pursues a single line of thought persistently and systematically for years, often without outside aid or encouragement. His mind works the Massachusetts Institute of Technology at Cambridge.

Experimental work typical of the past century and an expenditure of approximately $60,000. This installation will be used in large manufacturing and research in the petroleum industry. The field tests will be supplemented by laboratory tests under controlled conditions in the illumination research laboratories of the Massachusetts Institute of Technology.

THE TYPES OF SCIENTISTS

By Dr. Edwin E. Slosson.

Are you an extravert or an introvert?

That is to say the question is not theory. The terminology is new, for it was recently introduced by Jung. But the question is old. For Galen made a similar effort to classify mankind by temperament. He distinguished between the "sanguine", who are quick, active, impulsive and changeable, and the "phlegmatic", who are slow, calm and persistent. When these two characteristic types are strongly marked they are called respectively "choleric" and "melancholic".

Another old classification of a similar sort is between "objective" and "subjective" or between "pragmatic" and "sentimental".

Professor William James devotes the first chapter of his book on "Pragmatism" to showing how our beliefs and reactions are unconsciously controlled by our temperamental bias and from this point of view he divides people into the "tough-minded" and the "tender-minded". The tough-minded, he says, are "empiricist (going by facts), sensationalistic, materialistic, pessimistic, irreligious, fatalistic, pluralistic and sceptical", while on the other hand the tender-minded are "rationalistic (going by principles), intellectualistic, idealistic, optimistic, religious, free-willist, monistic and dogmatical". And he says you can tell them apart because they have a low opinion of each other. "The tough think of the tender as sentimentalists and soft-heads. The tender feel the tough to be unrefined, callous and brutal." The tough-minded of James correspond roughly with the extravert of Jung, and the tender-minded with the introvert.

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The classicist on the contrary has to put up with deferred payment. His merit as a scientist often fails of adequate recognition till his death, and not always then. He pursues a single line of thought persistently and systematically for years, often without outside aid or encouragement. His mind works mathematically and logically, but he may be deficient in experimental and practical ability. He is reluctant to publish and apt to be a poor teacher. Among American scientists Benjamin Thompson, alias Count Rumford, was a typical romanticist and Willard Gibbs was a typical classicist.

Professor C. G. Seligman, president of the Royal Anthropological Institute, of London, in a recent address extended Jung's categories into wider fields. We can distinguish, he says, between extravert and introvert poetry and art. In painting, Rubens and Delacroix are extraverts and Poussin and Ingres are introverts. Japan as a whole is extravert, while China and especially India are introvert. Savage races as a rule appear extravert as compared with civilized Europeans. Professor Seligman thinks that in any one people the two types appear in about equal numbers, though extraverts, being more responsive and better adapted to the world, give the impression of being in the majority.

These various attempts at splitting the human race into contrasting temperament do not agree closely as to dividing lines and distinguishing characteristics, yet there is obviously a certain similarity in the types recognized. Probably the physiologist will come in with a chemical classification based upon the hormones, which seem to be much like the long laughed at "humors" of past centuries. He may, for instance, use the activity of the thyroid gland as the criterion and call the extravert a "hyperthyroid" and the introvert a"hypothyroid". He may even attempt to alter temperaments to order by injection of some coal-tar compounds, as indeed he can do now to a considerable extent.

If you cannot answer the question with which we began, so much the better for you, since it shows that you have a well balanced character. Though we may safely lean one way or the other, as doubtless we all do, yet we should not run to either extreme,for that way madness lies. The extreme of the extravert is hysteria and the extreme of the introvert is dementia praecox.

IMPORTANT FINDS AT UR OF CHALDEES

Word has been received by officials of the University of Pennsylvania Museum that the archaeological expedition at Ur of the Chaldees has now a force of 170 men excavating the famous Ziggurat or staged tower, and that important discoveries may be made at any time. The expedition is a joint one with the British Museum and is directed by Dr. C. Leonard Woolley.

The Ziggurat or great staged tower of Ur has been considered as perhaps the key puzzle of these ancient ruins,the solution of which has been the especial task of the University of Pennsylvania Museum expedition during the past winter. More than 170 men have been engaged in the excavation. While the date of its construction is at least as early as the sixth century B.C., the exact date has not been known. It is built over the ruins of a large building, part of which was excavated early in the winter and which yielded relics of peculiar value, among them the remnants of a columned portico of the 16th century B.C. This discovery revolutionized former ideas of Babylonian architecture, since no relics of the use of columns had been found earlier than the Persian period about 1,000 years later.

The Ziggurat was covered with many feet of desert sand and debris when the excavation began. Early clearing away of some of this rubbish disclosed the

brick wall of the tower, with the masonry work still sharp and plumb. Between this wall and the outer boundary of the sacred enclosure of which it seemed to form a part were found curious chambers which seemed to have served as store-chambers for the oil used in the sacred shrines. This construction dates from the time of Nabonidus, about 550 B.C.

The joint expedition of the University Museum and the British Museum has been at work at Ur of the Chaldees since November 1, 1922. The work has, however, been interrupted during the summer when the climate is unbearably hot for whitemen. Ur is located about six miles east of the Shaat-el-arab river made by the merging of the Tigris and Euphrates rivers, on the edge of the Syrian desert, and about 80 miles from Basra at the head of the Persian Gulf. The first task the expedition undertook was the excavation of the Temple of the Moon God, which was rebuilt by Nebuchadnezzar and further repaired by Cyrus. This excavation led to that of the Ziggurat, and to that of the building upon which in part it stood.

The tower or Ziggurat measures about 198 feet by 133 feet at the base of the first story which is 27 feet high. The second story is about 14 feet high, and measures 119 by 75 feet. The whole structure stood on a brick platform about 20 feet in height. Important excavations have been made also at Tel-el-Obeid about four miles from Ur, where records have been found dating back to 4,600 B. C.

Ur itself was, according to the Biblocal account, the ancestral home of Abraham, from whence he emigrated to seek a new home in the Land of Promise. It is about 140 miles southeast of the great city of Babylon, now like Ur a heap of ruins, but for centuries the greatest city in the East and probably at that date in the whole world.

PLANT EXPLORER FINDS NEW BARLEYS AND WHEATS

Naked barley, whose peculiar virtue is that it is easily threshed, is one of the desirable agricultural immigrants brought back by Dr. Harry V. Harlan, plant explorer of the U. S. Department of Agriculture, who has just returned from a year's journey to India, Abyssinia, and Egypt. He was unsuccessful in finding any new varieties of bald or beardless barleys, but brought back a general assortment of foreign varieties of small grains and legumes.

While unwhiskered barleys are known in this country, having been introduced from India many years ago, they are not of the most suitable varieties, and Dr. Harlan hoped to find some of the variants of the species which would serve for breeding crosses. These were said to be found in Nepal in India, but Harlan learned that travel to that rather remote region was so slow and uncertain that if he tried to make the trip he would be in danger of missing the trip to Abyssinia on the way home. But while in India he found some very early varieties of barley, as well as early wheat and legumes, seeds of which he brought along.

The "naked" barley, or barley which is easily separated from the glumes which enwrap the grain, and is therefore easily threshed, was found in Abyssinia and Egypt. Varieties of emmer, also easily threshed, were found. Emmer is

a small grain used in Abyssinia for both forage and bread, but in most varieties the difficulty in threshing it makes it unsuitable for bread making. It is grown to a slight extent in this country. Interesting varieties of field peas, thought to be new to this country, were also found.

The natives of Abyssinia subsist chiefly on meat and bread, Dr. Harlan said. Asked where they got the vitamins which other races secure from dairy products, fruits, and fresh vegetables, Dr. Harlan said they used milk to some extent, but ate their meat mostly raw, in many cases devouring the slain animals while they were still warm, possibly by this means getting the vitamins from the fresh meat. This diet, while simplifying domestic economy, makes the Abyssinians very subject to tape-worm, Dr. Harlan said. They use honey for sweetening and make a powerful drink from it.

Dr. Harlan was in the Punjab in India during the hot season last summer, and said for days the temperature never fell below 100 degrees, day or night.

READING REFERENCE - Hardy, Marcel E. The Geography of Plants. New York, Oxford University Press, 1920.

Ganong, W. F. The Living Plant; A description and interpretation of its functions and structure. New York, Henry Holt and Company, 1913.

MILK VITAMINS KILLED BY HEATING IN COPPER

The use of copper utensils in the pasteurization of milk may cause destruction of the scurvy-preventing vitamin, says a report to the American Medical Association by Dr. Alfred F. Hess and Mildred Weinstock of the College of Physicians and Surgeons of Columbia University. The copper may be present in quantities far too small to cause copper poisoning and yet be sufficient to destroy practically all of this essential vitamin.

This anti-scorbutic vitamin C is known to be destroyed by oxidation. This was proved by heating milk to which a small quantity of hydrogen peroxide, an efficient oxidizer, had been added. This is suggested by Dr. Hess and Miss Weinstock as a possible reason for the increase in infantile scurvy in Berlin, where small amounts of hydrogen peroxide have been legally permitted as a preservative for milk.

The experiments just completed by these investigators indicate that the destruction of the vitamin is greatly increased in the presence of a chemical substance which acts as a catalyzer, or substance which by its presence increases the intensity of chemical reactions. A series of animal experiments showed that copper acts as such a catalyzer and in its presence the vitamin was greatly reduced by heating. Since milk is frequently pasteurized in copper utensils, and since it is one of the chief sources of this important vitamin, the investigators declare that this discovery is an important one and should receive careful attention.

About 2,800,000 tons of newsprint paper were used in the United States last year.

LOS ANGELES SKELETONS MAY NOT BE SO OLD

Scientists are not yet ready to say whether or not the human skeletons unearthed in the southwest district of Los Angeles by a construction gang represent an early age of man heretofore undiscovered on this continent.

But assembling of the fragments of bone is in progress and chemical analyses of the skeletal remains are being made in order to determine how completely organic matter has been eliminated. This will give evidence as to whether the bones date from the Ice Age or are more recent.

Fear of the coroner threatened at the time of the discovery to put an end to the scientific evidence. A gang of laborers excavating for a sewer uncovered the first signs of human remains and they immediately began to destroy the bones for fear that legal interference would be invoked by the municipal authorities. Fortunately the contractor intervened before much of the priceless evidence was destroyed. Souvenir hunters have also hindered the scientific study by carrying off pieces of the skeletons, but arrangements are being made to recover some of this material.

The several hundred bones are so much broken it is impossible to determine their stage of development. Some pieces ring like vitrified pottery, however, indicating a long period of chemical transformation. A fairly complete jaw bone shows its owner was a highly developed man in advanced stage of evolution. His chin is well developed.

The bones are stained grayish brown from fine alluvial soil in which they were buried. This is a highly micaceous deposit whose geologic age is not known It lies from 19 to 23 feet below the surface. The undisturbed strata indicate very great age since alluvial deposition in arid southern California is very slow.

No bones showing primitive or ape-like characteristics have been found though restoration of the skulls may reveal type as yet unsuspected. The remains are apparently those of one woman and four men. The fourth man excavated was found to be similar to the others. One of the men is of large frame but they can not be considered giants or dwarfs.

Material so far collected is in the hands of Director William A. Bryan of the Los Angeles Museum and will be assembled by expert anatomists. This is a very difficult task because of the excessive breakage.

Despite the fact that the graves are in the midst of the city outfall sewer construction operations, the contractor is cooperating in a praise-worthy fashion . Steam shovels and hydraulic apparatus are in service, but much interference has been caused by the heavy rains and the resulting cave-ins. No tools, weapons or other man-made devices have come to light, nor have any bones or fossils of lower animals which might indicate geologic age been found.

Dr. John C. Merriam, president of the Carnegie Institution of Washington, Dr. Loye Miller, professor of biology of the University of California, and Dr. Chester Stock, head of the University of California's department of paleontology, have investigated the discovery, but neither they nor any other scientist of professional repute are willing to draw any further inferences as to the age

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of the remains. Some local amateurs interested in geology believe the remains to be of the glacial period, but there is as yet no definite proof.

READING REFERENCE - Osborn, Henry Fairfield. Men of the Old Stone Age; their environment, life, and art. New York, Charles Scribner's Sons, 1895.

Hrdlicka, Ales. Recent Discoveries Attributed to Early Man in America. Smithsonian Institution Bureau of American Ethnology Bulletin 66. Washington, Government Printing Office, 1918.

WHALE SHARK, LARGEST LIVING FISH, INTRODUCED TO NEW YORK.

A truly delicate monster is the whale shark. A small scale model of a 30-foot specimen has just been placed upon exhibition in the American Museum of Natural History, and the public pauses to admire the creature for his fancy coat and his coy eye without appreciating his amiable disposition. The whale shark is as harmless as a guinea pig. He has never tasted man. He does not even eat his brother fish, although he himself is the largest fish in existence - the whale, of course, being not a fish but a mammal.

Whale sharks have been measured up to a length of 45 feet, and whale fishermen, whose keen eyes are accustomed to taking such measurements, declare that they have seen whale sharks 70 feet long. How strange, then, to discover that the teeth of this giant of the ocean are no longer than one-eighth of an inch! But he has six or seven thousand of them, including both jaws. He wears his tiny eye in the upper jaw, where it can observe his continuous dinner.

Possessing teeth so dainty, the whale shark has but one weapon of defense-his tail. He never harms men unless he happens to rub up against the side of a boat, probably to rid himself of barnacles, and if he overturns or smashes the craft upon these occasions it is not with malice aforethought.

When he dines he does not gobble large fish, like the other sharks. Instead he swims with his mouth open and collects the small animals that float upon the surface of the sea. The water passes over his gill-rakers, and these sift out the food. It then passes out through his gill-slits. He swallows everything that is taken in, and of course the quantities of little jelly fish, crabs and other small fry that he requires in a day are enormous.

Why do they call him a whale shark? Because he is a whale in size and in his manner of feeding and because he is often found with whales. More generally he is seen in company with other sharks, but he is so much larger than they that by comparison with him they seem no bigger than the pilot-fish or shark-suckers when seen beside the ordinary small shark. This statement was first made in 1840 by a pearl-fishery inspector, who amazed the world with his account of a giant fish seen in the Indian Ocean.

If the whale shark's behavior is handsome, so is his appearance. His coat is a delicate smoke-gray, thickly covered with white spots, which cause him to resemble a marine Milky Way. Unfortunately, one is not likely to see him on a fishing trip. Only five specimens have been taken in the Atlantic

Ocean - four off the coast of Florida and one off the southern coast of Brazil. He is not uncommon around the Seychelles, in the Indian Ocean, and is found in the Bay of Bengal and around Ceylon. He is encountered throughout East Indian waters, particularly near Java, and is known in the Philippines, on the coasts of Japan, New Guinea and Australia; in Callao harbor, Peru; in the Bay of Panama and the Gulf of Lower California.

READING REFERENCE - Crowder, William. Dwellers of the Sea and Shore. New York, The Macmillan Co., 1923.

CHEAP BRIQUETS FROM LIGNITE PROMISE NEW FUEL FOR DAKOTAS

That briquets can be made from lignite in a properly built plant for $7 to $8 per ton is the estimate of engineers of the U. S. Bureau of Mines made as a result of several years of study by W. W. Odell, fuel engineerof that Bureau.

To make lignite briquets the raw lignite is treated in a new type of retort which was first built by the Bureau at Grand Forks, N.D., in cooperation with the University of North Dakota. Further study in cooperation with Canadian authorities at Bienfait, Canada, has also furnished facts now used as a basis for this estimate.

Such low cost fuel promises great economy in the Dakotas and Montana where the briquets could be used in place of anthracite or bituminous coal, both of which sell at very high prices in these districts. However, the engineers of the Bureau recognize that the rail haul from the Pennsylvania coal fields to much of the northwest territory and all of the central east is so short that lignite cannot compete there successfully with anthracite or soft coal.

The steamers on the Great Lakes which come East with iron ore from Northern Minnesota must go West in ballast unless they carry coal. As a consequence, the west-bound freight rates on coal are little more than the handling charge for loading and unloading the vessels. As a consequence Wisconsin and Minnesota can get coal from the East at a lower cost for transportation than they can get lignite from the western part of the Dakotas where it is proposed that the lignite briquets should be made. There is no expectation, therefore, that these important results on lignite will have a general effect upon fuel prices beyond the territory in Montana, the Dakotas, and perhaps Texas where lignite is abundant and cheap.

One-third of the total solid fuel resources of the United States consists of the lignites of the Northwest. In North Dakota alone the area of lignite lands are estimated to be approximately 32,000 square miles.

A Kentucky surgeon, who recently received a hurry call to operate on a patient living on a country road impassable for automobiles, made his visit by airplane.

[illegible] southern coast of Brazil. [illegible] Panama Canal, and is found [illegible] throughout that in- [illegible] Philippines, on the [illegible] in the Bay [illegible].

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TABLOID BOOK REVIEW

WORLD WEATHER. By H. H. Clayton. New York, Macmillan Co., $4.00

This is one of the first books of a popular nature in which the weather of the whole world rather than that of some particular continent is discussed. Professor Clayton is well qualified for such a discussion since he served for several years in the Meteorological Service of the Argentine Republic after having made a reputation in this country for meteorological work.

A large part of the book is devoted to weather cycles and to theories of their cause, and to the interrelation of weather conditions in widely separated parts of the world. Professor Clayton believes that variations in the sun's energy as measured by the frequency of sun spots has much to do with these changes. While to the trained and critical meteorologist, his conclusions may seem in advance of the facts and while errors might be found in his mathematical and physical treatment of his data, to the average man interested in the weather of the world, the book will be both informing on what is now known about weather changes and stimulating to further thought.

What happens before a volcano explodes?

Various strange things -- in one instance, that of Mount Katmai, the valley was burned up by incandescent sand before it was blanketed with ash.

This flow of incandescent sand resembled the burning clouds from Mount Pelée, but in this case the red hot material did not come from the main crater, but instead burst through innumerable fissures in the floor of a green valley, now the Valley of Ten Thousand Smokes.

The above is one of the phenomena described in the first of a series of technical papers issued by the National Geographic Society, embodying the scientific results of its expeditions. This first paper is entitled "The Origin and Mode of Emplacement of the Great Tuff Deposit of the Valley of Ten Thousand Smokes", and is written by Dr. C. N. Fenner, Petrologist of the Geophysical Laboratory, Carnegie Institution, a member of the expedition ledd by Dr. Robert F. Griggs for the National Geographic Society.

These papers will be distributed to scientists who specifically request them.

THREE-IN-ONE STREET CARS

Hope appeared on the horizon of the straphanger the other day in Detroit in the form of a new type of street car. This car or rather three-in-one car train is designed to give greater seating capacity for the same street space than the usual type of cars. It consists of three connecting cars on four sets of wheels and seats 140 people. The street railway company also wins; as the three-in-one train weighs less and is cheaper to run than three ordinary type cars.
